Illinois
Environmental
Protection Agency

Office of Community Relations
P.O. Box 19276
Springfield, Illinois 794-9276

December 2001

Fact Sheet #3

# Downers Grove Groundwater Investigation

Downers Grove, Illinois
Results of Round 3 Well Testing



## Background

Illinois EPA continues to investigate groundwater contamination in the areas of unincorporated Downers Grove. During October 16-18 and October 23-24, Illinois EPA sampling teams collected 159 private well samples. Nine more samples were collected on November 14. The samples were taken primarily in an area south of Maple Street and east of Belmont. See Area 4 (the expanded sampling area) on the attached map.

During the spring of 2001, the Illinois EPA and the Illinois Department of Public Health (IDPH) took a small number of well samples in unincorporated areas of Downers Grove in response to citizen concerns related to recent private well sampling in neighboring Lisle. Results of a few samples in Downers Grove in May showed some solvent contamination in scattered wells. Consequently, Illinois EPA decided to initiate a separate investigation in unincorporated Downers Grove to identify contaminated wells and potential sources for the contamination.

Illinois EPA collected samples from private water wells in unincorporated Downers Grove during the weeks of July 16 and September 11, 2001. The results from these samples constituted the first and second phases of the Downers Grove Groundwater Investigation. In the first two rounds of sampling, approximately 320 wells, in three areas, were analyzed for levels of solvent-type chemicals, known as volatile organic chemicals (VOCs).

**What did the test results for the most recent (October and November) sampling show?**

**The larger area, Area (#4), shows that many wells contain tetrachloroethylene (PCE), trichloroethylene (TCE) and other related VOCs. Thirty percent of the most recent well tests in this area show PCE or TCE contamination above the federal drinking water standards. To date, 199 wells out of 471 total sampled have contamination above the drinking water standard for public water supplies and another 200 had detectable levels of contamination.**

**Can you explain the defined areas of contamination based on the well testing done between July and November?**

**Evaluation of current data show the plume of contamination of TCE, PCE and related chemicals extends from an area of higher concentrations about one block north of Maple Avenue from Lomond on the west, to Woodward on the east southward to 63rd Street. Concentrations drop off to very low levels at Elinore on the west and Lee and Springside on the east. Illinois EPA does not know at this time how far south the plume extends. The commercial/residential area just south of 63rd Street is an area of public water supply connections. No VOCs were detected in two wells that have been tested south of 63rd near 75th and Dunham Road.**

**What steps are the Illinois EPA taking to find sources of the contamination?**

**Illinois EPA is gathering information from several different areas in our investigation of potential sources of the solvent contamination:**

1) Data from private well tests show where elevated levels of contamination exist in the groundwater. Illinois EPA then concentrates efforts upgradient (opposite the flow of

groundwater) for source areas.

2) Historical research of known spills and releases of solvents in the area provides information about potential source areas.
3) Illinois EPA sent information requests to area businesses in and near the Ellsworth Industrial Park (north of Maple Ave.) to learn about previous and current solvent use and disposal.
4) The general public is encouraged to provide information to Illinois EPA about solvent use or spills/releases of solvents in the area.

In addition, U.S. EPA has offered their assistance and will work with the Illinois EPA to identify the source(s) of contamination.

**Will the investigation target a source or sources soon, or does that usually take a long time?**

Finding a potentially responsible party to past, non-reported environmental contamination usually takes a long time. In some cases, it is not possible to know with certainty the source of an old spill or release.

**Can the contamination be removed from the groundwater, or will it degrade to non-toxic products over time?**

When a large area of an aquifer, as is the case in unincorporated Downers Grove, is contaminated with solvents, it is generally thought to be infeasible to attempt to pump out millions of gallons of water, treat it, and return it to the aquifer. Consequently, the remedy for the groundwater contamination, assuming no significant source area remains, is natural attenuation over time. That means that the contamination is allowed to disperse or breakdown over time over a large area until it no longer poses a threat to any particular well. This type of contamination does not degrade much when it is deep in the aquifer, because the degradation requires oxygen and sunlight.

**What about the original source material where the spill occurred? Can it be cleaned up?**

Yes. In the case where a source area is defined, the stained soils can be cleaned up by a number of proven remedies, or the source area can be dug up and disposed as hazardous waste and the highly contaminated groundwater in the immediate vicinity can be treated.

**Should well owners drink the water?**

IDPH recommends that owners of wells containing TCE and PCE at or greater than the federal Maximum Contaminant Level for public water supplies (5 parts per billion) use an alternative source of drinking water or install a water treatment unit designed to remove VOCs.

**If contamination is found in my well, will the state force me to change over to a public water supply?**

Neither Illinois EPA nor IDPH would "force" a citizen to abandon a private well. IDPH will advise residents of any well contamination and make recommendations about changes in water use. Private wells are the domain of the well owner.

**What adverse health effects are related to exposure to TCE or PCE?**

According to IDPH, exposure to TCE and PCE at levels much greater than those levels found in Downers Grove area wells can cause nausea, dizziness or headaches.

The health effects of long-term use of well water with low levels of TCE and PCE contamination, as we are seeing here, may pose a slightly increased cancer risk and may lead to impaired immune system function or kidney or liver damage.

There is an updated "Trichloroethylene Health Risk Assessment" by U.S. EPA that is now out for public comment. This draft assessment is available on the Internet at http://www.epa.gov/ncea. You may also telephone the National Center for Environmental Assessment (NCEA's) Technical Information Staff at 202/564-3261 or fax a request for the assessment to 202/565-0050.

**How can I reduce my exposure to TCE or PCE?**

If your water contains TCE or PCE, you can greatly reduce your exposure by using another source of drinking water or by using a water treatment unit designed to remove VOCs. Since VOCs evaporate into the air, you can reduce your inhalation exposure by running the bathroom exhaust fan during baths and showers. Exposure to TCE or PCE from other water uses should be very small.

**Could I solve the problem of exposure to the contamination by installing a filtration system?**

Yes. You may install a whole-house carbon filtration system that will effectively remove the solvent contamination. A homeowner should look for systems that are ANSI-approved or NSF (National Sanitation Foundation)-approved. A source of information about water filtration systems is Water Quality Association of Lisle, 630/505-0160 at www.wqa.org. Keep in mind that the activated carbon needs to be exchanged per the manufacturer's recommen- dations so that it is effective at filtering the solvent contamination, but also to prevent bacterial growth in the system.

**How did Illinois EPA obtain names and addresses to contact potential well owners to sample? My neighbor has never been contacted.**

Since there is no one source of information for all private wells in the state, Illinois EPA depends on numerous sources and efforts. During June and July this year, the Village of Downers Grove provided a list of nearly 850 potential well owners, and DuPage County Public Health provided some additional information that was then cross-referenced. Illinois EPA attempted to contact by telephone the homeowners in the first sampling area (west of Belmont). During August, Illinois EPA, on two occasions, walked the areas of concern both west and east of Belmont and placed door-hangers asking whether residents had a well and wanted it tested for volatile organic compounds. In September, Illinois EPA made a follow-up mailing to homeowners in the area of concern on the east side of Belmont asking them to contact us if they wanted their wells tested in October.

If you or someone you know has a well but has not been contacted by Illinois EPA and wish to have your well tested or to be added to the mailing list for updates about the investigation, feel free to contact Carol Fuller at 217/524-8807.

**For more information, please contact:**


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Other Fact Sheets by the Office of Community Relations, including Fact Sheets #1 and #2 for this site, are available on the Illinois EPA web site www.epa.state.il.us


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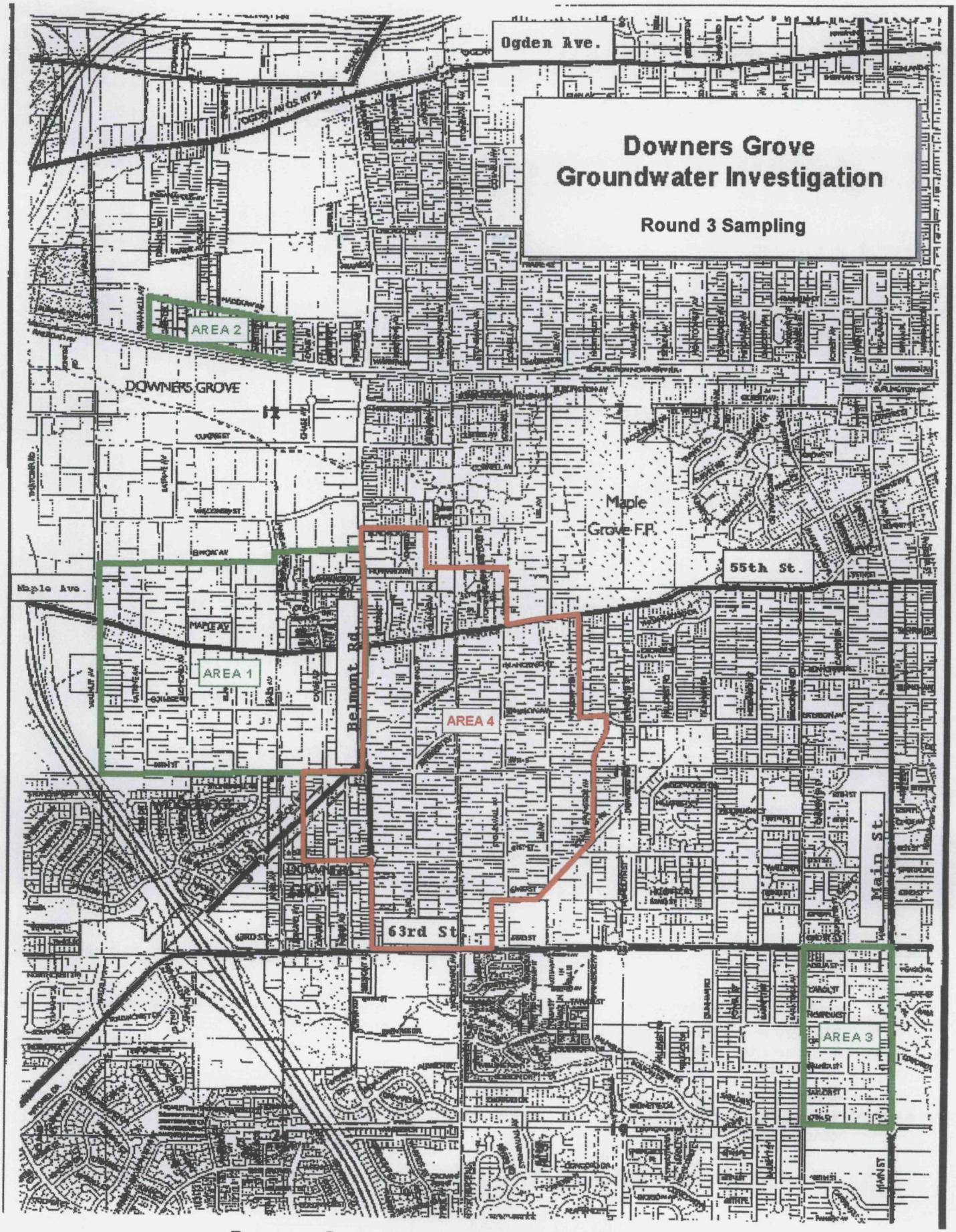
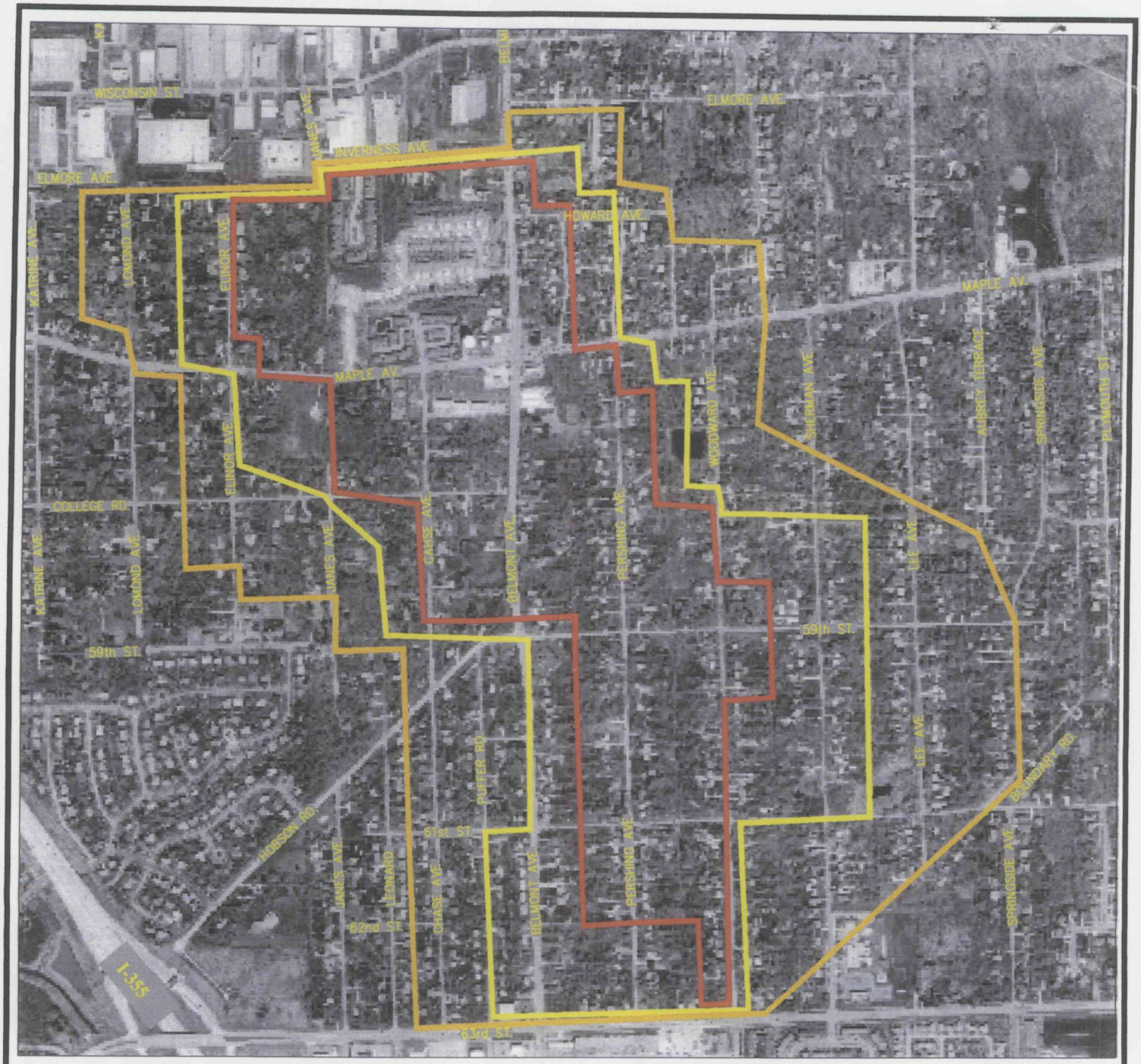



Downers Grove Township and Lisle Township Map




LEGEND

- Boundary containing 95+ percent of sampled wells in Downers Grove exhibiting a sum of TCE and PCE concentrations between 2 and 5 ppb
- Boundary containing 95+ percent of sampled wells in Downers Grove exhibiting a sum of TCE and PCE concentrations between 5 and 10 ppb
- Boundary containing 95+ percent of sampled wells in Downers Grove exhibiting a sum of TCE and PCE concentrations above 10 ppb

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SCALE: 1"=1000'

DATE: 12/12/01
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NOTES:

Aerial photo obtained from USGS, April 1998

Data Sources:
1) Prairie Analytical Laboratories, collected from May 2001 through October 2001.
2) Illinois Department of Public Health, collected in May 2001

# TCE AND PCE ANALYTICAL RESULTS
# PRIVATE WELL SAMPLING PROGRAM
# DOWNERS GROVE, ILLINOIS
## DATE PREPARED: December 12, 2001

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